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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/004, 897 01/09/98 BURRIS

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EXAMINER

IM22/0922

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ART UNIT

PAPER NUMBER

1724

**DATE MAILED:**

09/22/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

## Office Action Summary

Application No. <b>09/004,897</b>	Applicant(s) <b>William A. Burris</b>
Examiner <b>Frank Lawrence</b>	Group Art Unit <b>1724</b>

- Responsive to communication(s) filed on Aug 23, 1999
- This action is **FINAL**.
- Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

### Disposition of Claims

- Claim(s) 1-58 is/are pending in the application.
- Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- Claim(s) \_\_\_\_\_ is/are allowed.
- Claim(s) 1, 5-9, 11-18, 20, 21, 25, 27, 28, 30-35, 37-39, 43-45, 47-55, 57, and 5 is/are rejected.
- Claim(s) 2-4, 10, 19, 22-24, 26, 29, 36, 40-42, 46, and 56 is/are objected to.
- Claims \_\_\_\_\_ are subject to restriction or election requirement.

### Application Papers

- See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- The proposed drawing correction, filed on \_\_\_\_\_ is  approved  disapproved.
- The specification is objected to by the Examiner.
- The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. § 119

- Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- All  Some\*  None of the CERTIFIED copies of the priority documents have been  received.
- received in Application No. (Series Code/Serial Number) \_\_\_\_\_.
- received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- \*Certified copies not received: \_\_\_\_\_
- Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

### Attachment(s)

- Notice of References Cited, PTO-892
- Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_
- Interview Summary, PTO-413
- Notice of Draftsperson's Patent Drawing Review, PTO-948
- Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1, 21 and 39 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The recitation "once" used in the amended claims is not described in the disclosure as originally filed.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1, 5, 8, 9, 11-13, 17, 18, 39, 43-45, 47-50, 54 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burris ('993; entire document) in view of Barnes ('016 figure 1; col. 2, line 32 to col. 3, line 39).

Burris ('993) discloses a batch liquid purifier comprising a pumping system which can be a venturi injector, pump with inline static mixer downstream, or an upflow column for mixing ozone into water. There is an air pump for supplying gas for introduction into the liquid and could be configured to empty the liquid passageway. Valves, the air pump and pumping system (liquid pump) are controlled for their protection and to control purifying and liquid flows in response to sensed conditions and treated flow discharge. Also disclosed is a gas/liquid separator downstream of the pumping system and that a drying agent (desiccant) is used at the inlet of the controlled ozone generator to provide dried air. The instant claims differ from the disclosure of Burris in that mixers are located upstream and downstream of the upflow chamber.

Barnes ('016) discloses a batch liquid purifier comprising an upflow chamber (11) with and inlet (33) and outlet (16), an ozone generator (32), a venturi/constriction injector (32), a pump, and a filter. The length of the passageway (L) after the ozone injector is disclosed to be long enough to provide sufficient mixing of ozone into the liquid and is located both before and after the upflow chamber due to recycling of the liquid. The mixers of claims 8 and 9 are met by the venturi and pipe length (L) of Barnes. How the generator operates is a functional limitation which is not patentably distinct in the apparatus claims. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the static mixer of Burris to include

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an additional mixer and place them upstream and downstream of an upflow chamber in order to provide more efficient ozone/liquid contact for better water purification. Those claims drawn towards when the ozone generator operates and when the outlet is closed are functional limitations which are not patentably distinct in the apparatus claims.

5. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burris ('993) in view of Barnes ('016) as applied to claim 1 above, and further in view of Uban et al. ('488; col. 5, lines 8-55).

Burris ('993) in view of Barnes ('016) discloses all of the limitations of the claims except that the filter in the system has an indicator to show a need for changing it. Uban et al. ('488) discloses a ozone water purifying system comprising an upflow chamber for contact and a filter downstream having an indicator that detects when the filter becomes clogged and starts a filter cleaning cycle. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the apparatus of the instant specification to include an indicator to detect when a filter needs to be changed in order to provide an automatic means for monitoring the filter so that it does not have to be manually inspected by a user.

6. Claims 14-16, 20, 51-53 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burris ('993) in view of Barnes ('016) as applied to claims 1 and 39 in paragraph 4 above, and further in view of Norris ('261; figures 1 and 3).

Burris ('993) in view of Barnes ('016) disclose all of the limitations of the claims as discussed in paragraph 4 above except that the dispenser includes a movable spout which can be

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extended beyond the purifier housing which activates the system, and that the container is detachable. Norris ('261) discloses a liquid dispenser having a detachable container and a movable spout extending from the unit and activating when extended further. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the apparatus of the instant specification to include a removable container in order to provide one that can be cleaned in another location and to use a movable spout which extends from the purifier and activates when extended in order to provide a means for easily dispensing liquid contents to a manual user without interference from the unit housing. The functional limitations of how the spout operation affects the purifier operation are not patentably distinct in the apparatus claims.

7. Claims 21, 24, 25, 27, 28, 32 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burris ('993) in view of Barnes ('016).

Burris ('993) discloses a method for purifying a batch of water using an ozone generator to mix ozone gas into the water inside of an upflow chamber pumping system, using a switch to control water flow and purifying operations in response to sensed conditions and water discharge, configuring the system to ensure sufficient ozone contact, mixing the gas and liquid in a passageway, providing a filter, and separating the gas from the liquid downstream of the upflow chamber. The instant claims differ from the disclosure of Burris in that the ozone containing water is directed to the upflow chamber after ozone is injected.

Barnes ('016) discloses a system for purifying a batch of water using an ozone generator comprising injecting ozone into a diverted flow stream, then directing it to a tank having an upper

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water outlet and in which bubbles flow upwards. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the process of Burris to include directing the ozone containing water to an upflow chamber after it is ozonized in order to provide mixing of the ozone into the water. It is known in the art to continuously operate the ozone generator before and during purification. Absent a proper showing of criticality or unexpected results, the relative speed of ozone bubbles and water flow in the upflow column is considered a parameter that would have been optimized by one having ordinary skill in the art at the time of the invention depending on the application.

8. Claims 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burris ('993) in view of Barnes ('016) as applied to claim 21 above, and further in view of Uban et al. ('488; col. 5, lines 8-55).

Burris ('993) in view of Barnes ('016) discloses all of the limitations of the claims except that the need for a filter change is indicated based on purification extent. Uban et al. ('488) discloses a ozone water purifying system comprising an upflow chamber for contact and providing a filter downstream having an indicator that detects when the filter becomes clogged and starts a filter cleaning cycle. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the method of the instant specification to include using an indicator to detect when a filter needs to be changed in order to provide an automatic means for monitoring the filter so that it does not have to be manually inspected by a user.

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9. Claims 33-35, 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burris ('993) in view of Barnes ('016) as applied to claim 21 in paragraph 7 above, and further in view of Norris ('261; figures 1 and 3).

Burris ('993) in view of Barnes ('016) disclose all of the limitations of the claims as discussed in paragraph 7 above except that the purified liquid is dispensed through an extendible outlet, that the liquid is blocked unless the outlet is extended, and that a detachable container is used. Norris ('261) discloses a liquid dispenser having a detachable container and a movable spout extending from the unit and activating when extended further. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the method of the instant specification to include using a removable container in order to provide one that can be cleaned in another location and to use a movable spout which extends from the purifier and activates when extended in order to provide a means for easily dispensing liquid contents to a manual user without interference from the unit housing.

***Allowable Subject Matter***

10. Claims 2-4, 10, 19, 22-24, 26, 29, 36, 40-42, 46 and 56 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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***Response to Arguments***

11. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.
12. Applicant's arguments filed August 23, 1999 have been fully considered but they are not persuasive. Applicant argues that Barnes does not teach a batch process or an upflow chamber, however, only a fixed amount of water is treated, with recirculation, and the liquid chamber is structurally configured as described in the instant specification, with a lower inlet and an upper outlet with rising bubbles. Applicant also argues that Barnes does not teach a mixer in a fluid passageway, however the venturi injector in passageway (21) mixes ozone with the flowing water. Applicant further argues that Burris does not disclose an upflow chamber, however, chamber 34 is structurally configured as described in the instant specification, with a lower inlet and an upper outlet with rising bubbles. Also, claims should be defined such that apparatus claims properly recite limitations of each structural element with proper nexus to define mutually cooperating functions. Functional limitations are not patentably distinguishable in the apparatus claims.

***Conclusion***

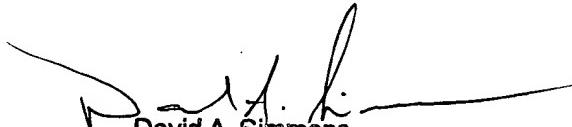
13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank M. Lawrence whose telephone number is (703) 305-0585. The examiner can normally be reached on Monday through Thursday from 8:00 AM to 4:30 PM, and on alternate Fridays from 8:00 AM to 3:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. David A. Simmons, can be reached on (703) 308-1972. The fax number for official after final faxes for this Group is (703) 305-3599, for all other official faxes the number is (703) 305-7718, and for unofficial faxes the number is (703) 305-3602.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0651.

FL



David A. Simmons  
Supervisory Patent Examiner  
Technology Center 1700

September 20, 1999